components, but does not preclude the presence or addition of one or more other features, integers, steps, components or groups thereof.

[0031] It should also be emphasized that the methods defined in the appended claims may, without departing from the present invention, be performed in another order than the order in which they appear in the claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0032] The present invention will now be described in more detail in relation to the enclosed 5 drawings, in which:

[0033] FIG. **1** shows a portable device in the form of a schematic cell phone **10**.

[0034] FIG. **2** shows a schematic diagram of the relevant parts of the cell phone **10** in FIG. **1**.

[0035] FIG. **3***a* shows the cell phone **10** in FIG. **1** provided with a first schematic exemplifying tactile touchscreen **20***a* having a first exemplifying electroactive touch-surface **22***a*.

[0036] FIG. **3***b* shows a section of the cell phone **10** and the first tactile touchscreen **20***a*, seen in the direction indicated by the arrows A-A in FIG. **3***a*.

[0037] FIG. **3***c* shows the actuator **30***a* in FIG. **3***b* in an exemplifying contracted state.

[0038] FIG. **4** shows a section of the cell phone **10** provided with a second schematic and exemplifying tactile touchscreen **20***b*, seen in the direction indicated by the arrows A-A in FIG. **3***a*.

[0039] FIG. **5** shows a section of the cell phone **10** provided with a third schematic and exemplifying tactile touchscreen **20***c*, seen in the direction indicated by the arrows A-A in FIG. **3***a*.

[0040] FIG. **6***a* shows the cell phone **10** in FIG. **1** provided with a second schematic exemplifying touch-surface **22***b* made of an electroactive polymer.

[0041] FIG. **6***b* shows a section of the cell phone **10** and the second touch-surface **22***b*, seen in the direction indicated by the arrows A-A in FIG. **6***a*.

[0042] FIG. **7** shows a flowchart of an exemplifying operation of a tactile touchscreen according to an embodiment of the present invention.

[0043] FIG. **8** shows a CD ROM on which program code for executing the method according to the invention is provided.

DETAILED DESCRIPTION OF EMBODIMENTS

[0044] The present invention relates to portable devices comprising a touch sensitive arrangement. In particular, the invention relates to portable communication devices comprising a touchscreen or similar touch sensitive arrangement. However, the invention is by no means limited to communication devices or touchscreens. Rather, it can be applied to any suitable portable device comprising a suitable touch sensitive arrangement.

[0045] FIG. **1** shows an exemplifying portable communication device according to a preferred embodiment of the invention. Preferably, the device is a mobile cell phone **10**. However, as indicated above, the cell phone **10** in FIG. **1** is just one example of a portable device in which the invention can be implemented. The invention can for instance be implemented in a PDA (personal digital assistant), a palm top computer, a lap top computer or a smartphone or any other suitable portable device.

[0046] The cell phone **10** in FIG. **1** comprises a keypad **12**, a loudspeaker **13** and a microphone **14**. The keypad **12** is used for entering information such as selection of functions and responding to prompts. The keypad **12** may be of any suitable kind, including but not limited to keypads with suitable push-buttons or similar and/or a combination of different **15** suitable button arrangements. The loudspeaker **13** is used for presenting sounds to a user and the microphone **14** is used for sensing the voice from the user or similar. In addition, the cell phone **10** includes an antenna, which is used for communication with other users via a network. The antenna is in-built in the cell phone **10** and hence not shown in FIG. **1**.

[0047] Moreover, the cell phone **10** in FIG. **1** comprises a tactile touch sensitive arrangement comprising an exemplifying tactile touchscreen **20**. The tactile touchscreen **20** comprises a touch function arranged to operatively receive and/or sense touches made by a user on the front surface of the touchscreen **20** facing the user. It is also preferred that the tactile touchscreen **20** comprises a display function arranged to operatively present such items as functions, prompts, still and/or moving images etc to a user. A touch function and a display function are almost mandatory features of typical touchscreens and they are also well known to those skilled in the art. Exemplifying touch screens in this category can e.g., be found in modern cell phones such as the M600i, W950i, P990i and others from Sony Ericsson. Hence, the well known touch function and display function of a touchscreen need no detailed description.

[0048] FIG. **2** shows parts of the interior of the cell phone **10** being relevant for the present invention. As previously explained, it is preferred that the cell phone **10** comprises a keypad **12**, a speaker **13**, a microphone **14** and a tactile touchscreen **20**.

[0049] In particular, it is preferred that the tactile touchscreen **20** comprises a touch-surface **22** for receiving and/or detecting touches from a user of the cell phone **10**, a display function **24** for presenting functions, prompts, still images and/or moving images etc as mentioned above, and an actuator function **30** for providing a tactile feedback to a user as a response to a touch on the touch-surface **22** of the touchscreen **20**.

[0050] As will be explained later, a first embodiment **20***a* of the touchscreen **20** may comprise a first embodiment **30***a* of the actuator **30**, a second embodiment **20***b* of the touchscreen **20** may comprise a second embodiment **30***b* of the actuator **30**, a third embodiment **20***c* of the touchscreen **20** may comprise a third embodiment **30***c* of the actuator **30** and a fourth embodiment **20***d* of the touchscreen **20** may comprise a fourth embodiment **30***d* of the actuator **30**. The first, second and third embodiments of the touchscreen **20** may comprise a first embodiment **22***a* of the touch-surface **22**, whereas the fourth embodiment **20***d* of the touchscreen **20** may comprise a second embodiment **22***b* of the touch-surface **22**.

[0051] In addition, the cell phone **10** is preferably provided with a memory arrangement **16** for storing such items as e.g. system files and data files etc. The memory arrangement **16** may be any suitable memory or combination of memories that are commonly used in known portable devices such as e.g. cell phones or similar. In addition, the cell phone **10** comprises an antenna **17** connected to a radio circuit **18** for enabling wireless communication with a cellular network.

[0052] Furthermore, the cell phone **10** is provided with a control unit **40** for controlling and supervising the operation of the cell phone **10**. The control unit **40** may be implemented by means of hardware and/or software, and it may comprise one or several hardware units and/or software modules, e.g.